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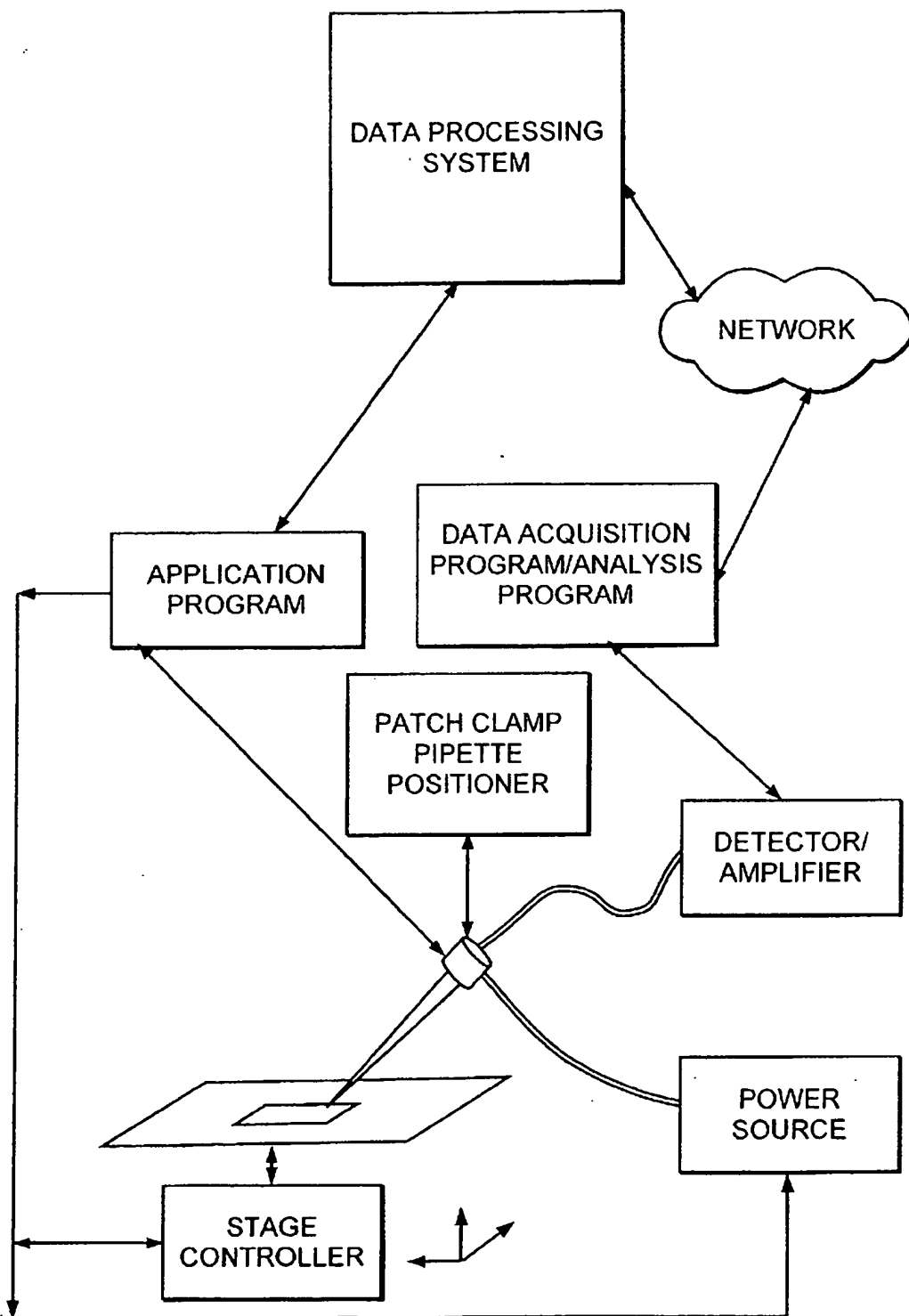


FIG. 1A

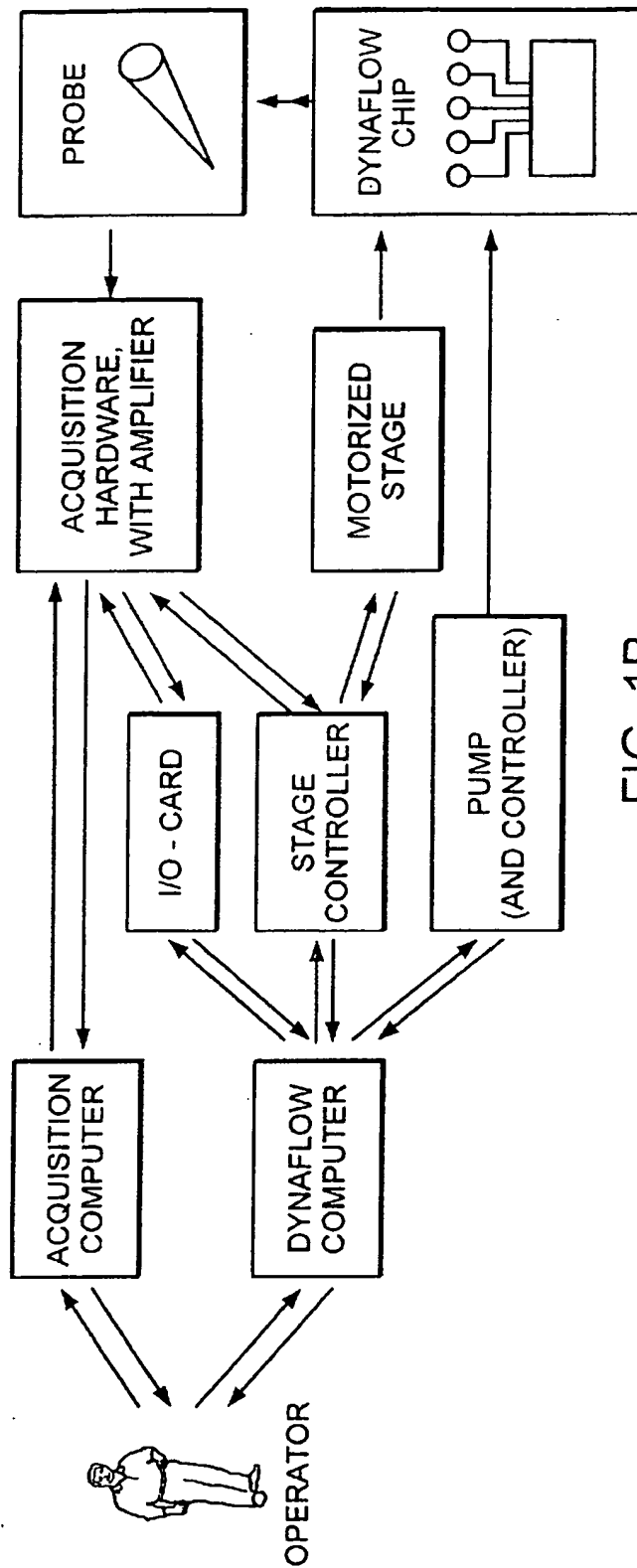


FIG. 1B

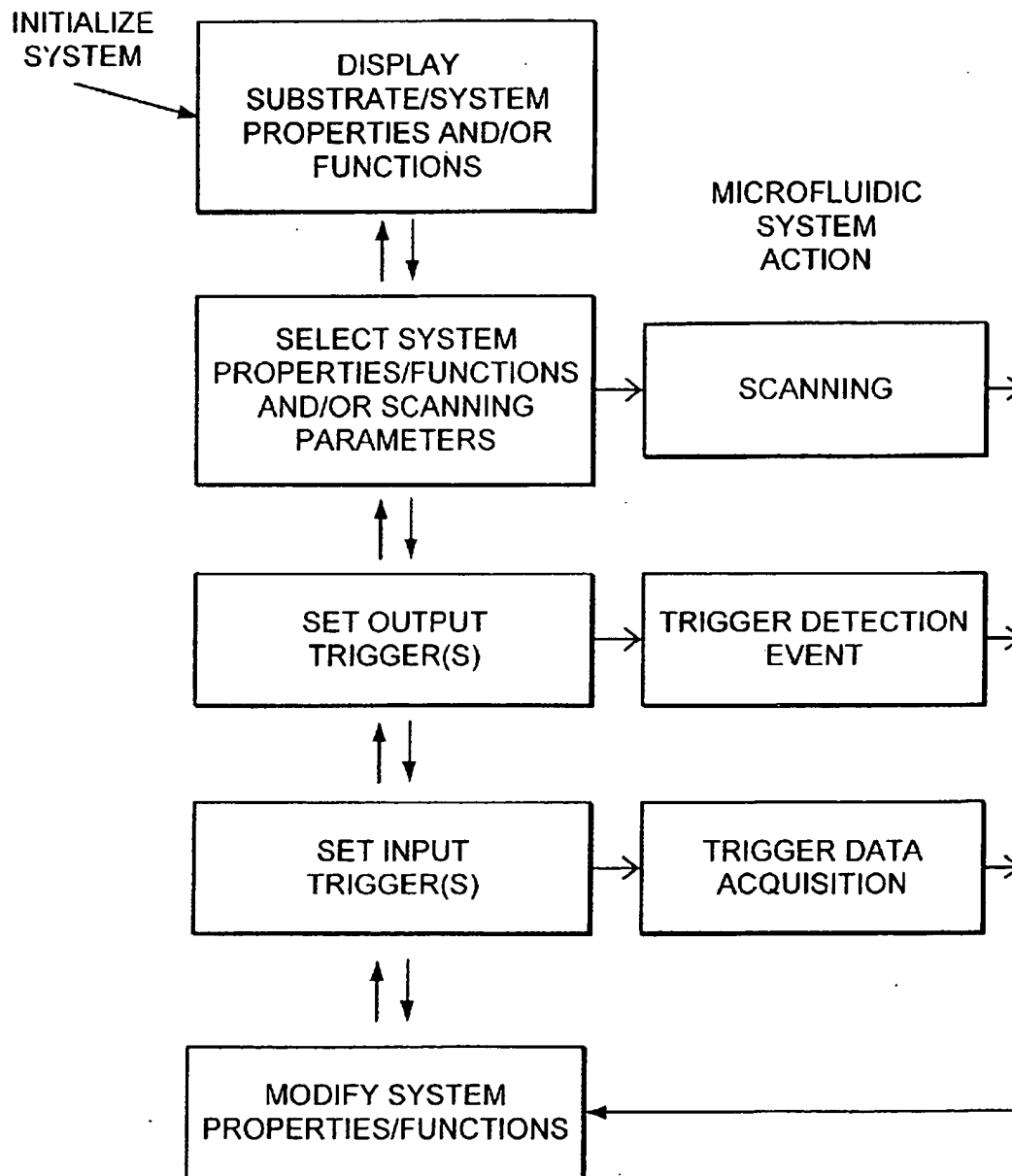


FIG. 1C

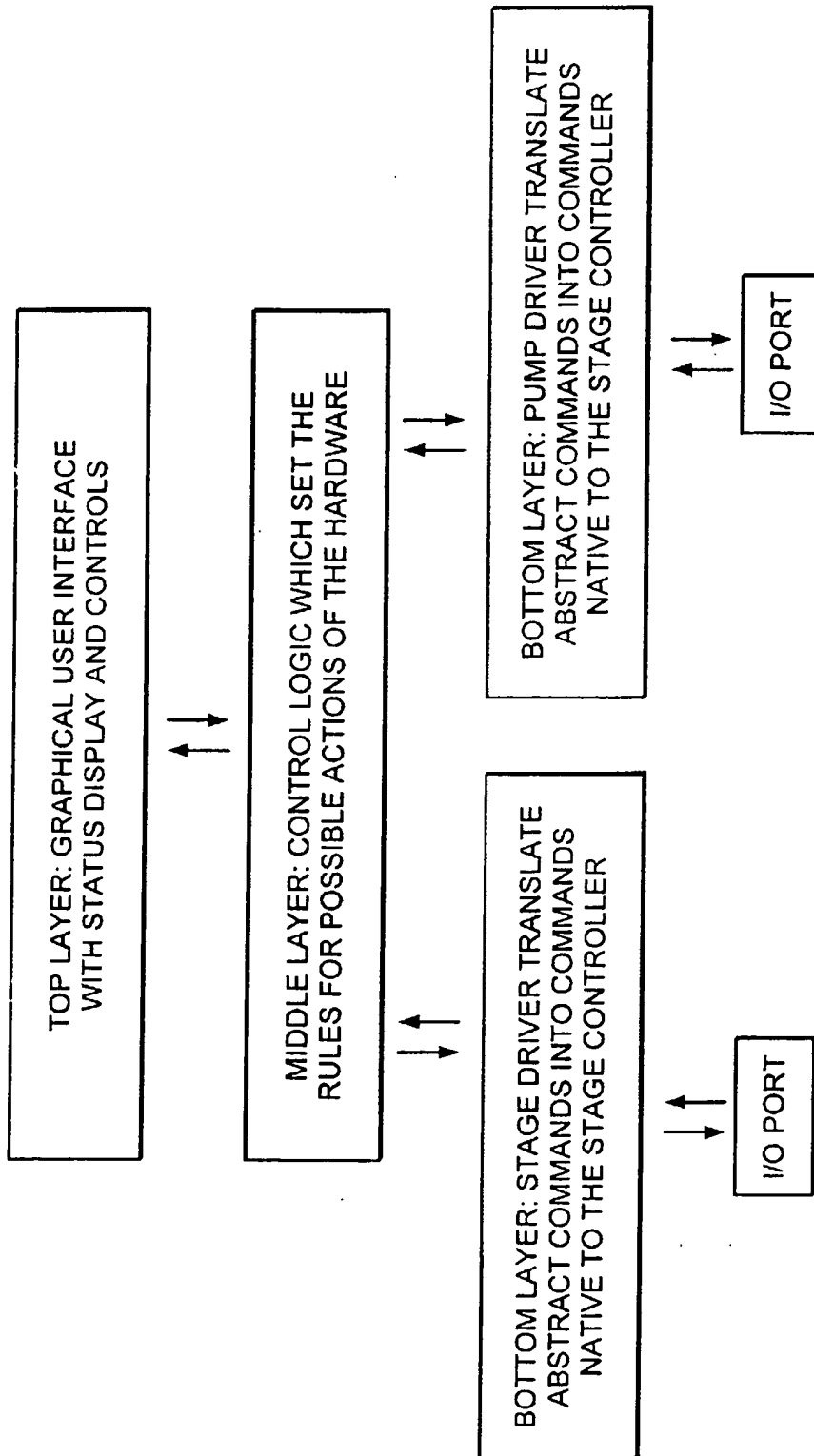


FIG. 1D

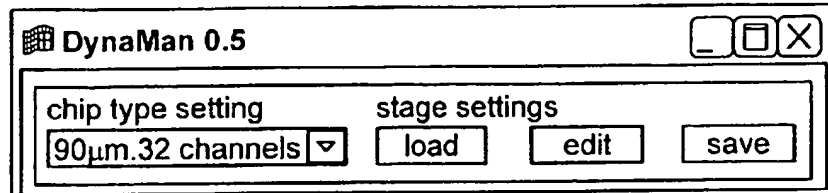
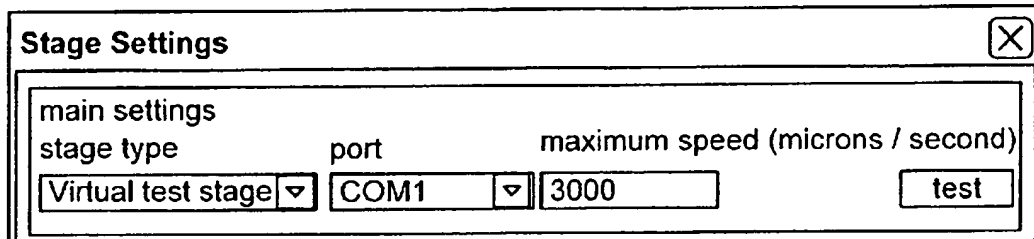
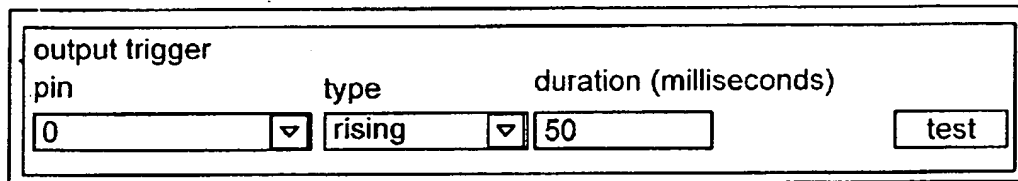


FIG. 2



Setting stage, port and max speed.

FIG. 3



Output trigger settings.

FIG. 4

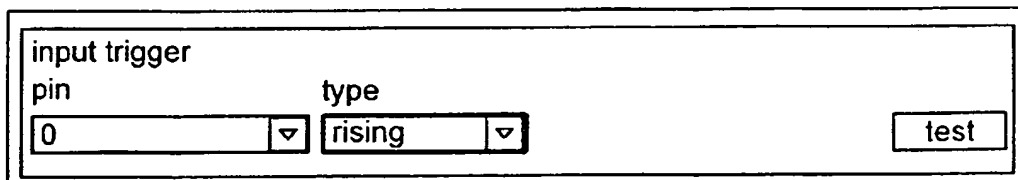


FIG. 5

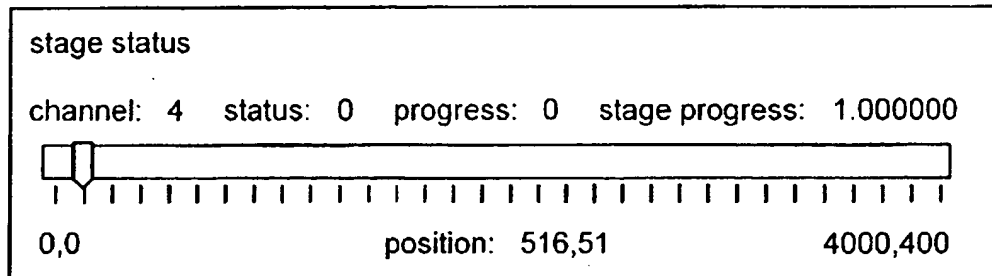


FIG. 6A

stage control

set refpos A

set refpos B

channel

2

▶ start

⏏ stop

▶▶ move

scan mode

time/channel

☐ output start trigger
 ☐ output channel trigger

☐ input start trigger
 ☐ output channel tags

FIG. 6B

DynaMan 0.5

chip type setting: 90µm.32 channels ▾ stage settings: load edit save

stage status

channel: 1 status: 0 progress: 0 stage progress: 0.000000

0,0 position: 120,200 4000,400

stage control

set refpos A set refpos B

channel: 2 ▾ ▶ start || stop ➡ move

scan mode: continuous movement ▾ time/channel: 6,450000 (6,450000) ▾ ▾

☐ output start trigger ☐ output channel trigger

☐ input start trigger ☐ output channel tags

Stage creation and connection ok.

FIG. 7

Stage Settings ✕

main settings

stage type	port	maximum speed (microns / second)	
Virtual test stage ▾	COM2 ▾	1111	test

output trigger

type	pin	duration (milliseconds)	
rising ▾	0 ▾	50	test

input trigger

type	pin	
rising ▾	0 ▾	test

pump settings

pump type	port	
▾	▾	test

OK Cancel

FIG. 8

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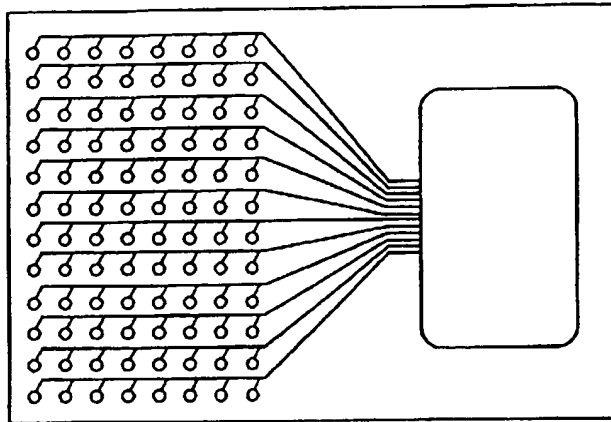


FIG. 9A

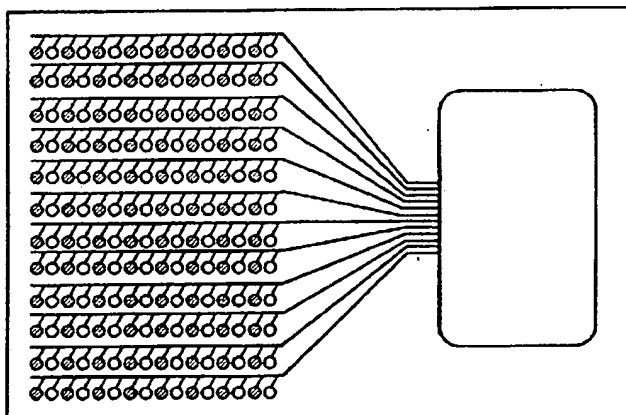


FIG. 9B

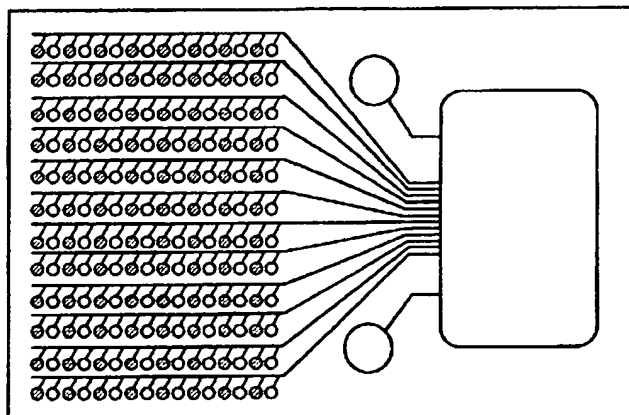


FIG. 9C

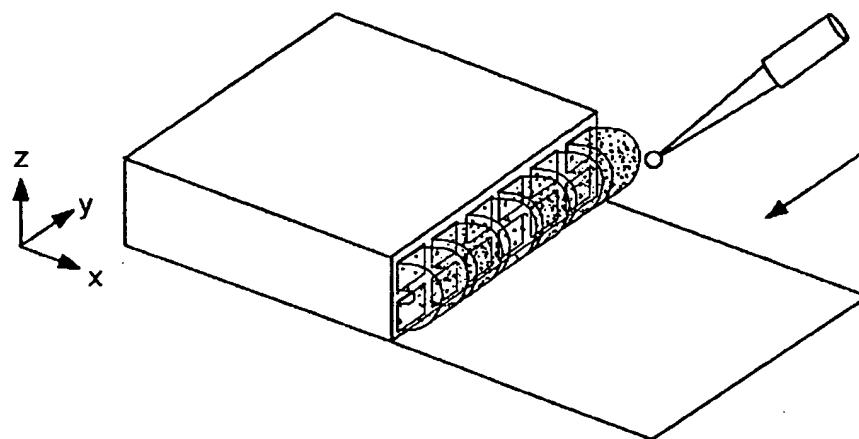


FIG. 10D

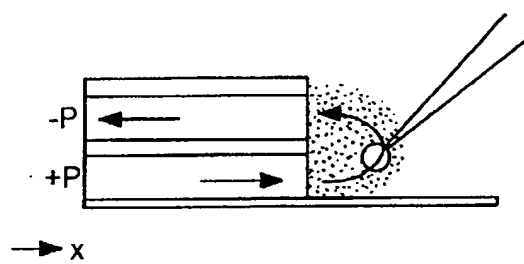


FIG. 10E

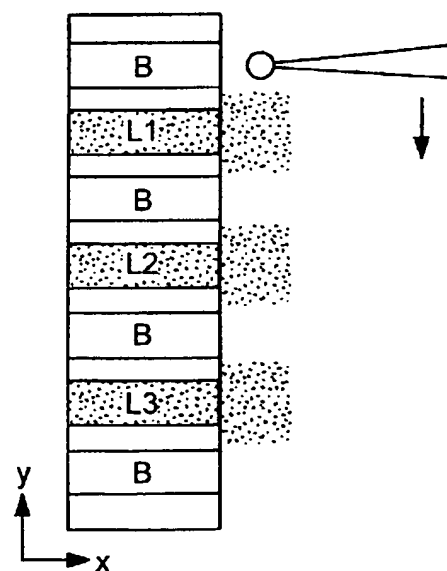


FIG. 10F

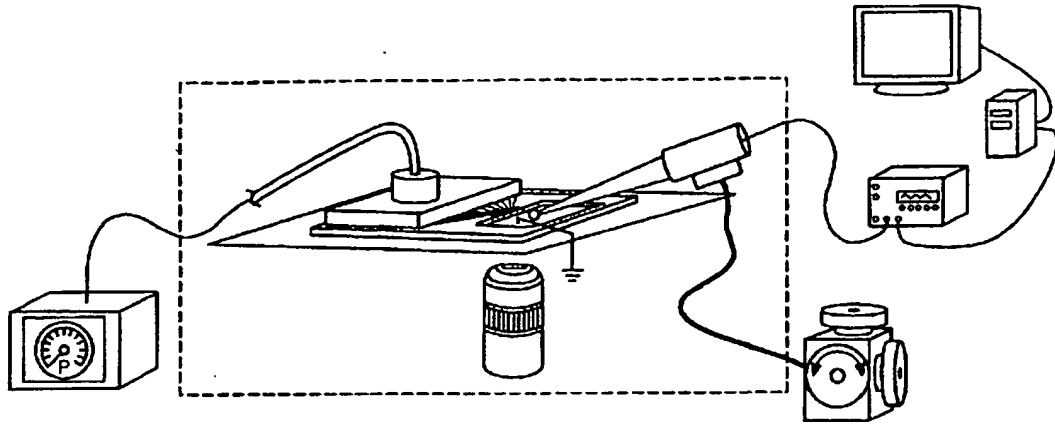


FIG. 11A

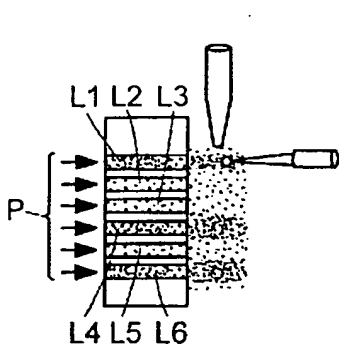


FIG. 11B

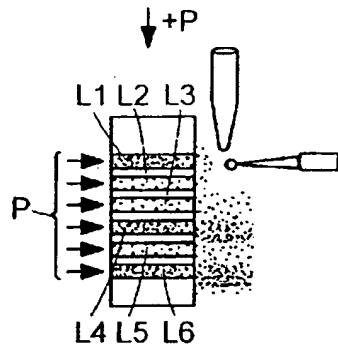


FIG. 11C

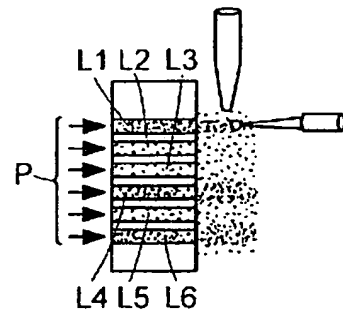


FIG. 11D

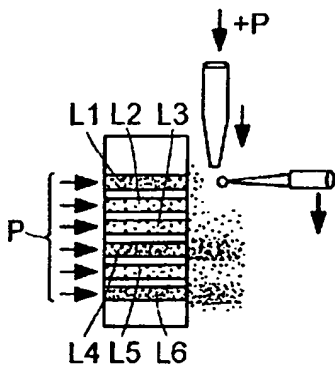


FIG. 11E

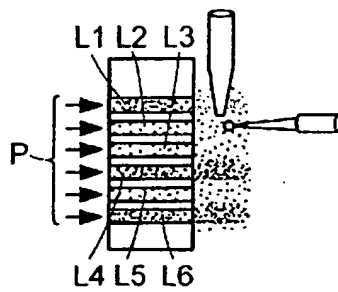


FIG. 11F

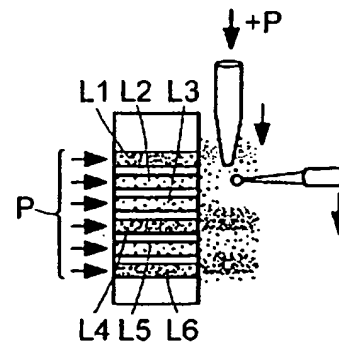


FIG. 11G

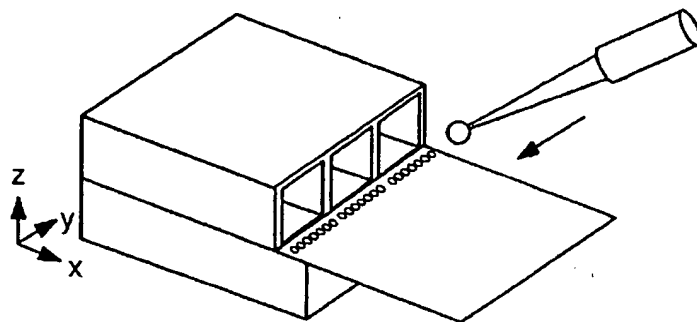


FIG. 11H

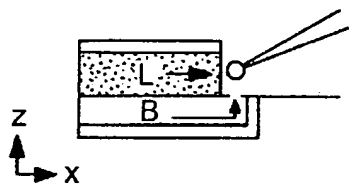


FIG. 11I

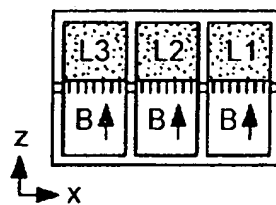


FIG. 11J

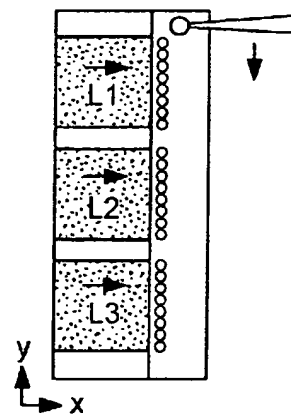


FIG. 11K

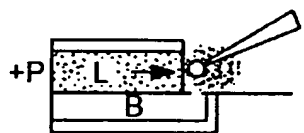


FIG. 11L

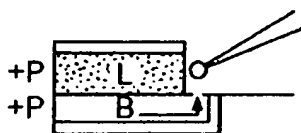


FIG. 11M

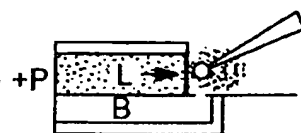


FIG. 11N

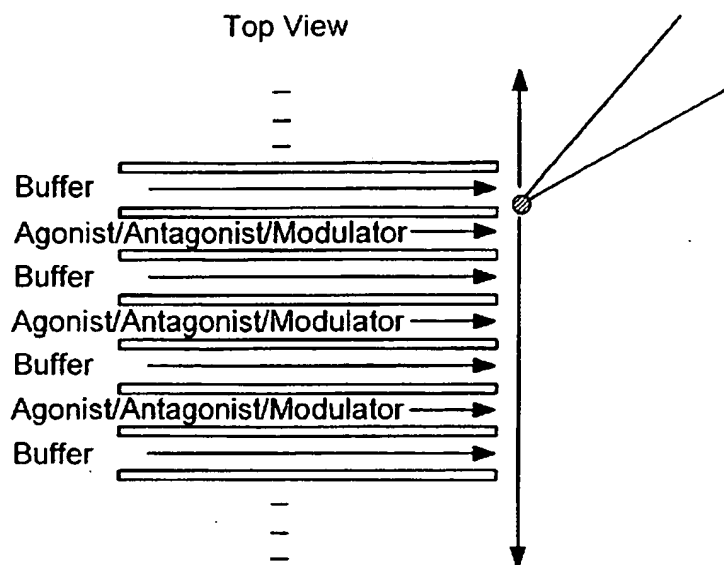


FIG. 12A

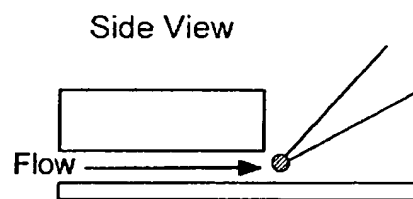


FIG. 12B

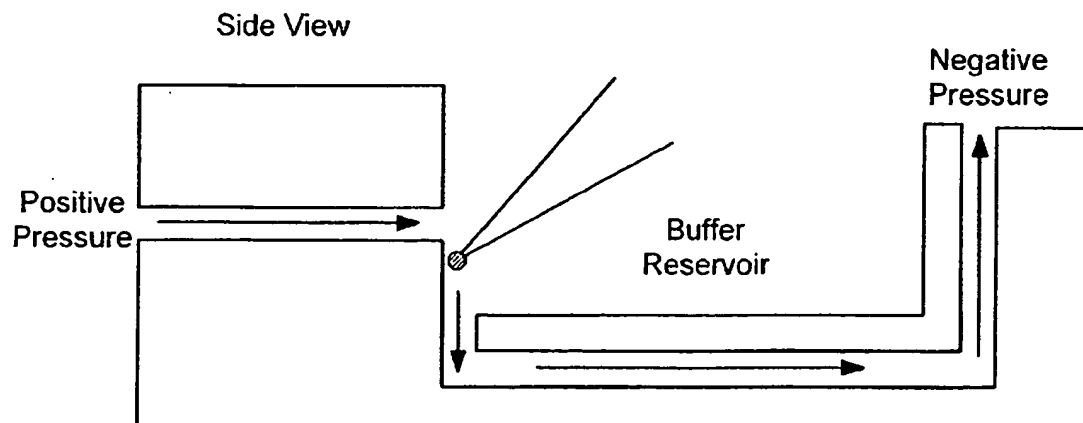


FIG. 12C

Channel content	B	T1	T2	T3	B	α 1	B	α 2	B	α 3	B	α 4	B	T2	B	α 5	B	α 6	B	α 7	B	α 8	B	T1	T2	T3
Channel #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

FIG. 13A

Simulated trace for a single forward scan across microfluidic channel outlets:

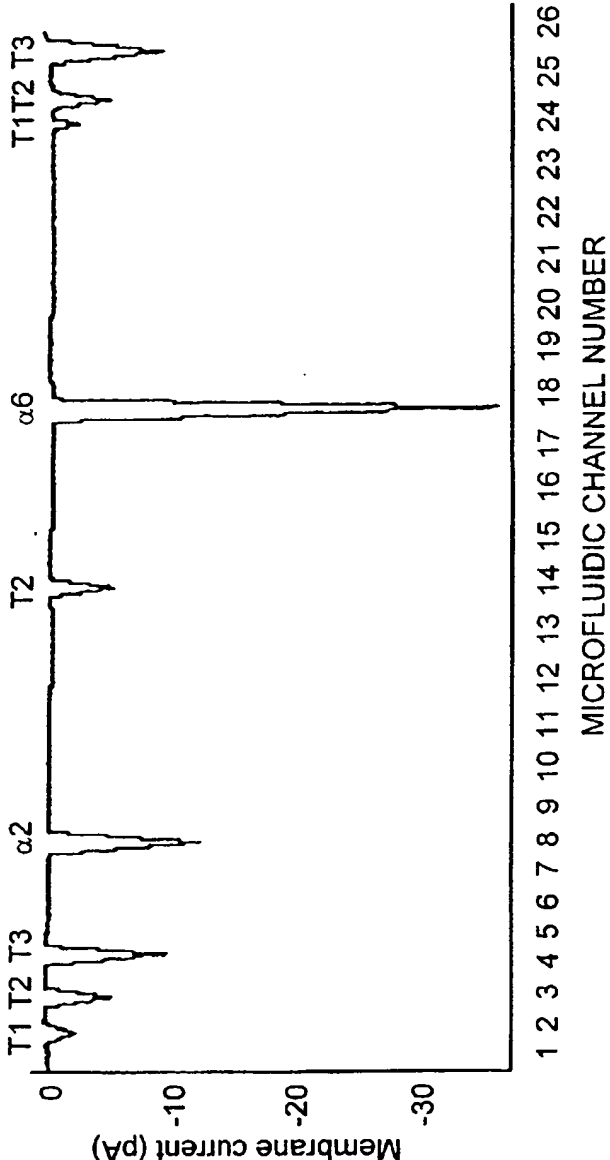


FIG. 13B

Score sheet (mean peak current amplitude of 6 scans)

Receptor response	0	1	5	10	0	0	0	0	12	0	0	0	0	0	0	0	0	37	0	0	0	0	0	1	5	10
Channel #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

B=Buffer solution

T1= Test compound with known efficacy (agonist) at low concentration

T2= Test compound with known efficacy (agonist) at medium concentration (close to EC₅₀-value)T3= Test compound with known efficacy (agonist) at high concentration(saturating concentration).
α=agonist with unknown efficacy

FIG. 13C

Channel content	B	T1	T2	T3	$\alpha 1$	$\alpha 2$	$\alpha 3$	$\alpha 4$	$\alpha 5$	$\alpha 6$	$\alpha 7$	T1	T2	T3
Channel #	1	2	3	4	5	6	7	8	9	10	11	12	13	14

FIG. 14A

Simulated trace for a single forward scan across microfluidic channel outlets.

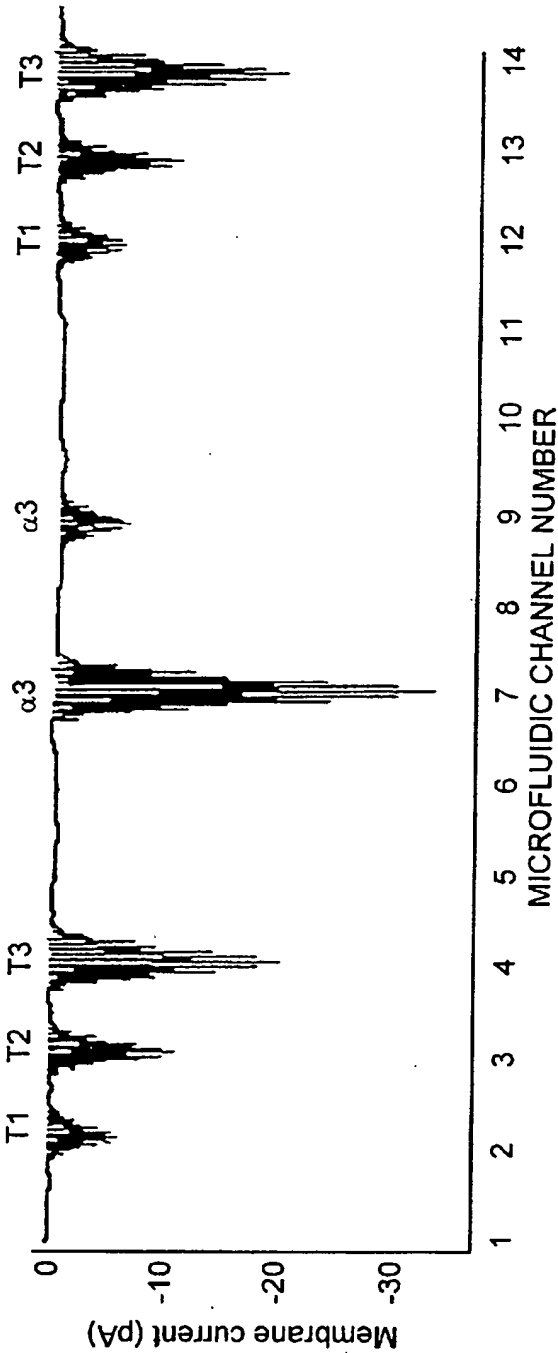


FIG. 14B

Score sheet (mean peak current amplitude of 6 scans)

Receptor response	0	5	10	20	0	0	34	0	4	0	0	5	10	20
Channel #	1	2	3	4	5	6	7	8	9	10	11	12	13	14

B = Buffer solution

T1 = Test compound with known efficacy (agonist) at low concentration

T2 = Test compound with known efficacy (agonist) at medium concentration (close to EC₅₀-value)

T3 = Test compound with known efficacy (agonist) at high concentration (saturating concentration).

 α = agonist with unknown efficacy

FIG. 14C

Content in channel	B	T1	T2	T	B	α 1	B	α 2	B	α 3	B	α 4	B	α 5	B	α 6	B	α 7	B	α 8	B	T1	T2	T3	B	α 9		
Channel #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Content in channel	B	T1	T2	T	α	B	α 19	B	α 18	B	α 17	B	α 16	B	α 15	B	T2	B	α 14	B	α 13	B	α 12	B	α 11	B	α 10	B
Channel #	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29

FIG. 15A.

Simulated trace for a single forward scan across microfluidic channel outlets:

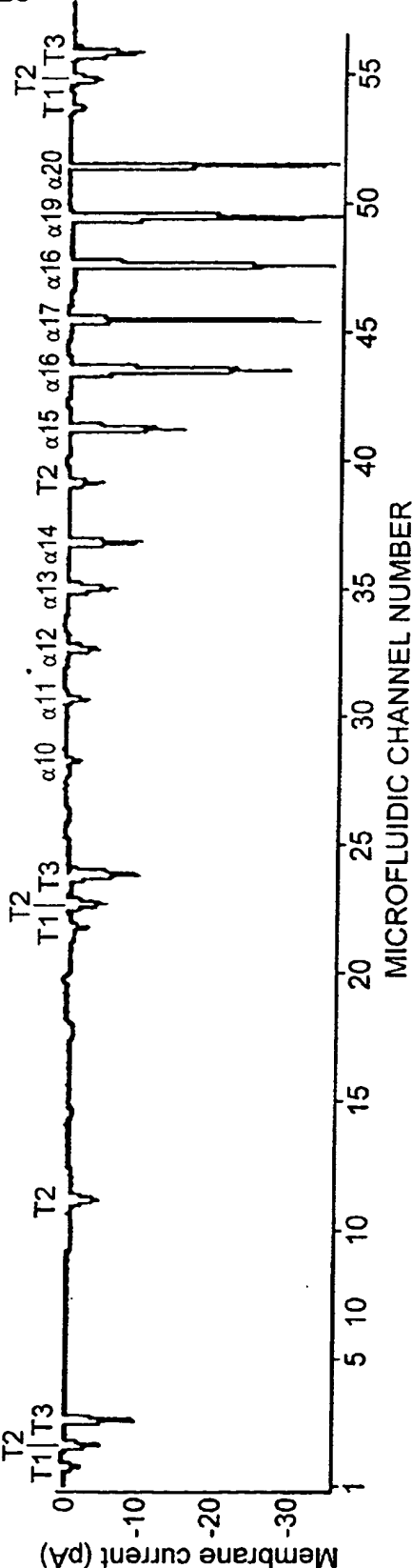


FIG. 15B.

[illegible]

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T2= Test compound with known efficacy (antagonist or agonist) at medium concentration (close to EC₅₀-value)

$\alpha 1$ -to- $\alpha 28$ agonist with unknown efficacy at different concentration progressively diluted(each step 10 times) to $\alpha 1$

FIG. 15C

Channel content	B	T	T	T	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B ⁺	A ⁺	B ⁺	T1	T2	T3
	+	1 ⁺	2 ⁺	3 ⁺	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	8	A				
	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	ζ	A				
Channel #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

FIG. 16A

Simulated trace for a single forward scan across microfluidic channel outlets:

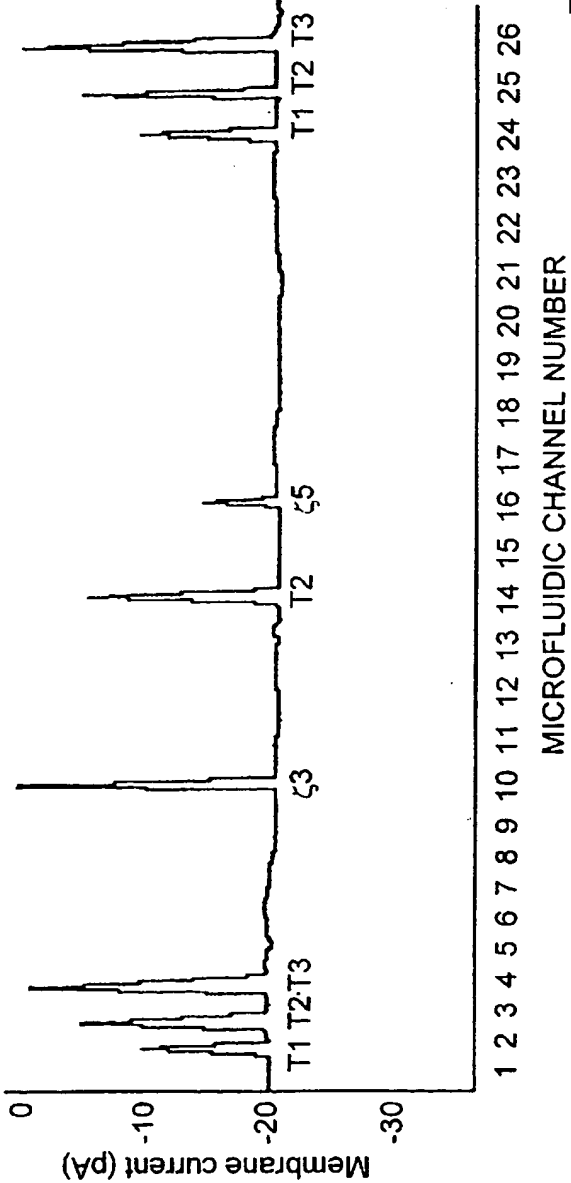


FIG. 16B

T1= Test compound with known efficacy (antagonist) at low concentration

T2= Test compound with known efficacy (antagonist) at medium concentration (close to EC₅₀-value)

T3= Test compound with known efficacy (antagonist) at high concentration(saturating concentration).

A= agonist with known efficacy

ζ = antagonist with unknown efficacy

Score sheet (mean peak current amplitude of 6 scans)

[illegible]

FIG. 16C

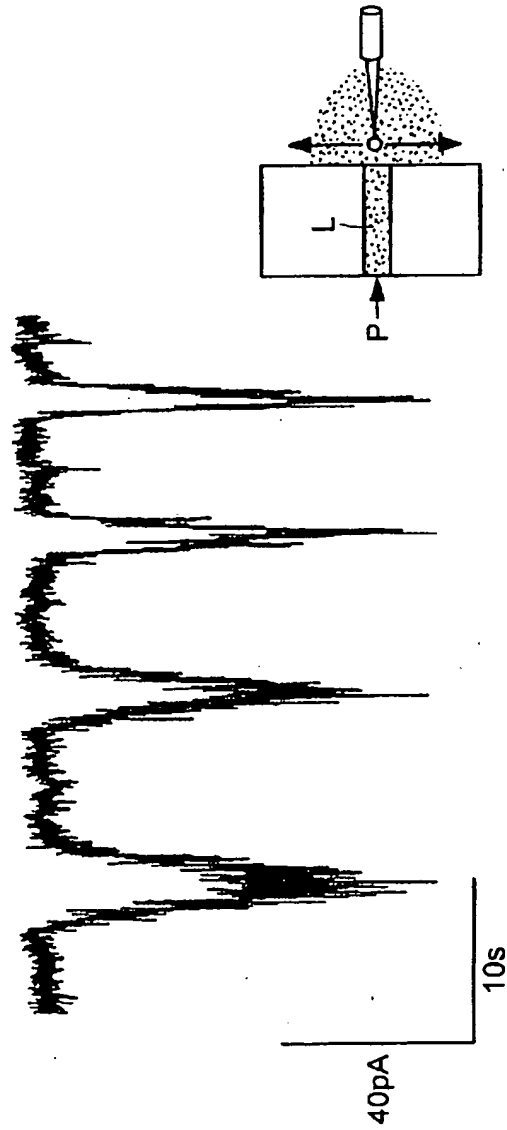


FIG. 17

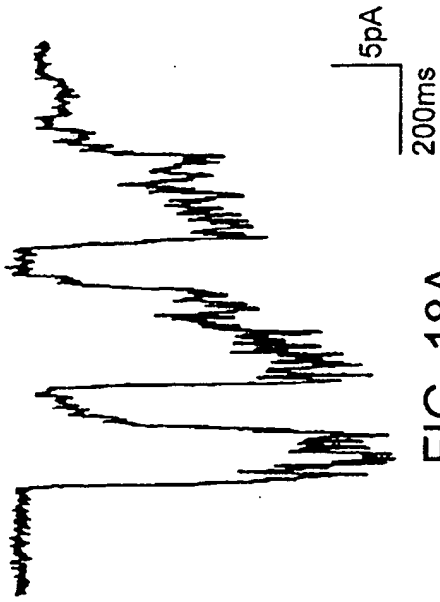


FIG. 18A

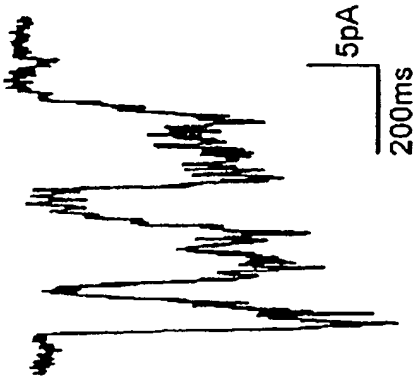


FIG. 18B

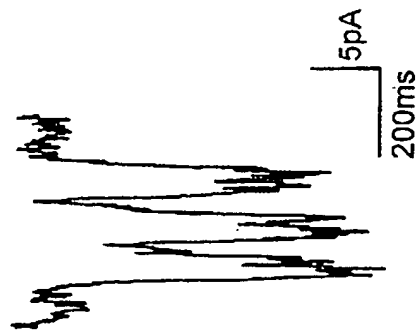


FIG. 18C

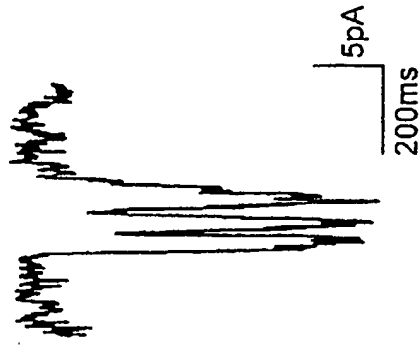


FIG. 18D

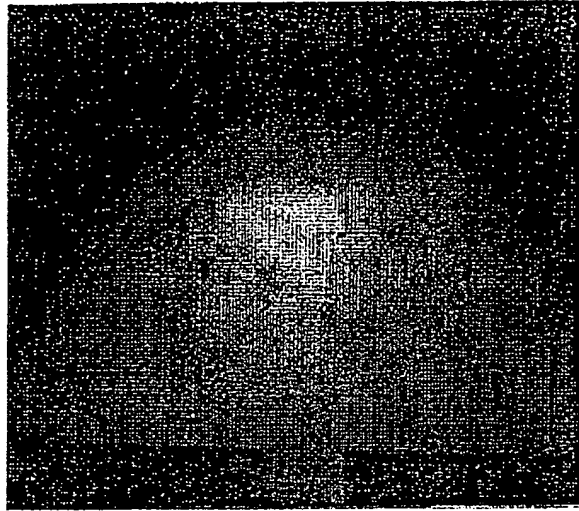


FIG. 19A

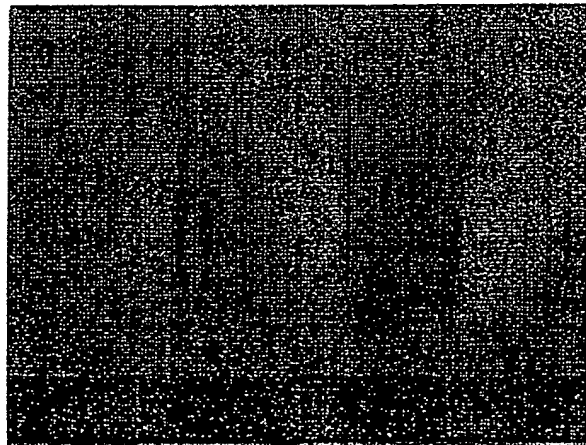


FIG. 19B

Current responses to 1 mM acetylcholine scan rate 16s/channel

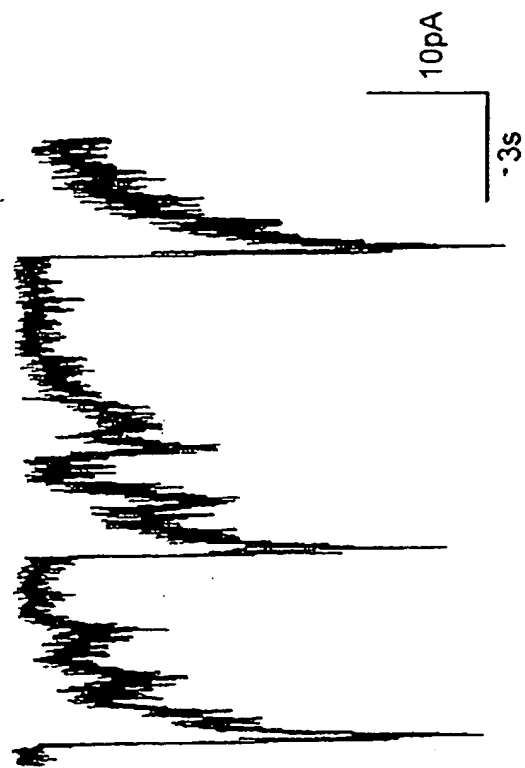


FIG. 20

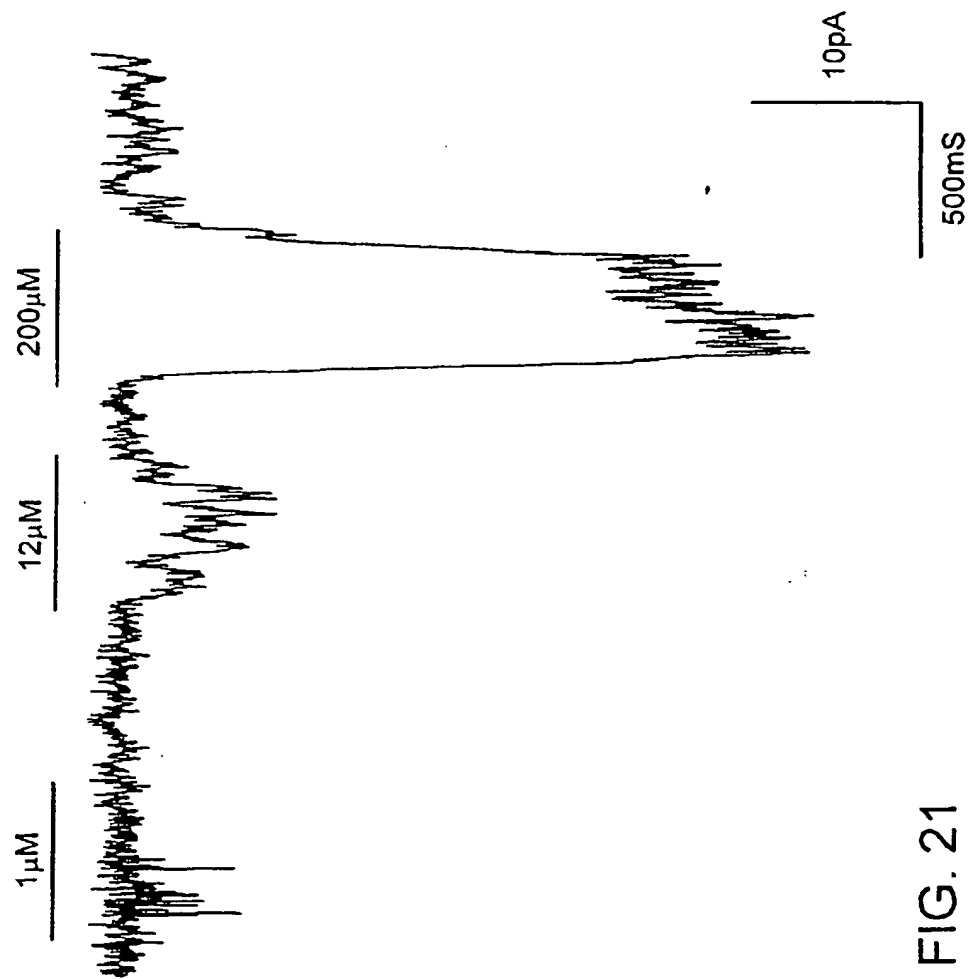


FIG. 21